

Form PTO 1390
(REV. 11-2000)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTORNEY'S DOCKET NUMBER

TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 25 U.S.C. 371INTERNATIONAL APPLICATION NO.
PCT/US00/10566INTERNATIONAL FILING DATE
19 April 2000PRIORITY DATE CLAIMED
19 April 1999TITLE OF INVENTION
Self-Aligning Mechanical PointerAPPLICANT(S) FOR DO/EO/US
Schroeder

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

- This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
- This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
- This is an express request to begin national examination procedures (35 U.S.C. 371 (f)). The submission must include items (5), (6), (9) and (21) indicated below.
- The US has been elected by the expiration of 19 months from the priority date (Article 31).
- A copy of the International Application as filed (35 U.S.C. 371(c)(2))
 - is attached hereto (required only if not communicated by the International Bureau)
 - has been communicated by the International Bureau.
 - is not required, as the application was filed in the United States Receiving Office (RO/US).
- NA An English language translation of the International Application as filed (35 U.S.C. 371 (c)(2)).
 - is attached hereto.
 - has been previously submitted under 35 U.S. C. 154(d)(4).
- Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3)).
 - are attached hereto (required only if not communicated by the International Bureau).
 - have been communicated by the International Bureau.
 - have not been made; however, the time limit for making such amendments has NOT expired.
 - have not been made and will not be made.
- An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
- An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
- An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11 to 20 below concern document(s) or information included:

- An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
- An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
- A **FIRST** preliminary amendment.
- A **SECOND** or **SUBSEQUENT** preliminary amendment.
- A substitute specification.
- A change of power of attorney and/or address letter.
- A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 – 1.825.
- A second copy of the published international application under 35 U.S.C. 154(d)(4).
- A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
- Other items or information:

The following fees are submitted:

BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) – (5)):

Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (27 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO..... \$1000.00

International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO..... \$860.00

International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO..... \$710.00

International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33 (1)-(4)..... \$690.00

International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33 (1)-(4)..... \$100.00

ENTER APPROPRIATE BASIC FEE AMOUNT =

CALCULATIONS PTO USE ONLY

Surcharge of \$130.00 for furnishing the oath or declaration later than 20 30 months from the earliest claimed priority date (37 CFR 1.492(e)).

\$ 710.00

CLAIMS **NUMBER FILED** **NUMBER EXTRA** **RATE** **\$**

Total Claims -20 = x \$18.00

Independent Claims - 3 = x \$80.00

MULTIPLE DEPENDENT CLAIM(S) (if applicable) + \$270.00

TOTAL OF ABOVE CALCULATIONS =

\$

Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above should be reduced by ½.

\$

SUBTOTAL =

\$ 710.00

Processing fee of \$130.00 for furnishing the English translation later than 20 30 months from the earliest claimed priority date (37 CFR 1.492(f)).

TOTAL NATIONAL FEE =

\$

Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property +

TOTAL FEES ENCLOSED =

\$ 710.00

Amount to be refunded:

charged:

a. A check in the amount of \$ _____ to cover the above fees is enclosed.

b. Please charge my Deposit account No. 07-1775 in the amount of \$ 710.00 to cover the above fees. A duplicate copy of this sheet is enclosed.

c. The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 07-1775. A duplicate copy of this sheet is enclosed.

d. Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:


SIGNATURE

Douglas B. Parrow
NAME

28582
REGISTRATION NUMBER

SELF-ALIGNING MECHANICAL POINTERTECHNICAL FIELD

5 This invention is designed for use with vehicle mounted line stripers.

BACKGROUND ART

While various types of video and mechanical guidance systems are known for use with vehicle mounted line stripers, all systems known to date suffer somewhat with rear mounted stripers in that while attempting to stripe over an existing line. While cornering, the front of the vehicle must track slightly to the outside of the line in order to keep the paint guns on the existing lines.

DISCLOSURE OF THE INVENTION

15 A pivoting wheel rides on the road surface and is connected to a swing arm with an adjustable linkage to another swing arm supporting a vertical rod which acts as a line guide.

These and other objects and advantages of the invention will appear more fully from the following description made in conjunction with the accompanying drawings

wherein like reference characters refer to the same or similar parts throughout the several views.

BRIEF DESCRIPTION OF DRAWINGS

5 Figure 1 is a top plan view of the guidance system of the instant invention.

Figure 2 is a front perspective view showing the guidance system mounted to a vehicle with the guide rod tracking the preexisting line.

Figure 3 is an operator's view from inside the vehicle cab showing the guide rod following the line on a forward looking video system.

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BEST MODE FOR CARRYING OUT THE INVENTION

The instant invention is generally designated 10 and shows a frame 12 attached to the front of a vehicle 14. A guide wheel 16 rides on the road surface and is rotatably carried by a pivoting wheel holder 18. Wheel holder 18 is connected to a swing arm 20, 15 both of which pivot on frame 12 at pivot point 22. An adjustable linkage member 24 connects first swing arm 20 to second swing arm 26 supporting a vertical guide rod 28 which acts as a line guide. Second swing arm 26 is pivotably mounted to the end of frame 12. As can be seen in Figure 1, first and second swing arms 20 and 26 respectively each have a plurality of adjustment holes which allow the geometry of the linkage to be 20 adjusted to suit a variety of vehicles and guidance systems.

As shown in the drawings, the instant invention is designed for use with the forward looking guidance system sold by Graco Inc., assignee of the instant invention for use with the ROAD LAZER™ line striper. In operation, the operator need merely maintain the guide rod 28 with the line on which striping is desired (preexisting or otherwise).

It is contemplated that various changes and modifications may be made to the guidance system without departing from the spirit and scope of the invention as defined by the following claims.

CLAIMS

1. A guidance system for use with a vehicle-mounted line striper, said guidance system comprising:

a frame member for mounting on said vehicle;

5 a first guide arm pivotably attached to said frame;

a second guide arm pivotably attached to said frame and said first guide arm;

a ground-contacting guide wheel rotatably mounted to said first guide arm; and

a guide rod extending vertically upwardly from said second guide arm so that the

operator of said vehicle may maintain said guide rod on a line to be striped

10 so as to maintain proper placement of said line through curves.

PCT

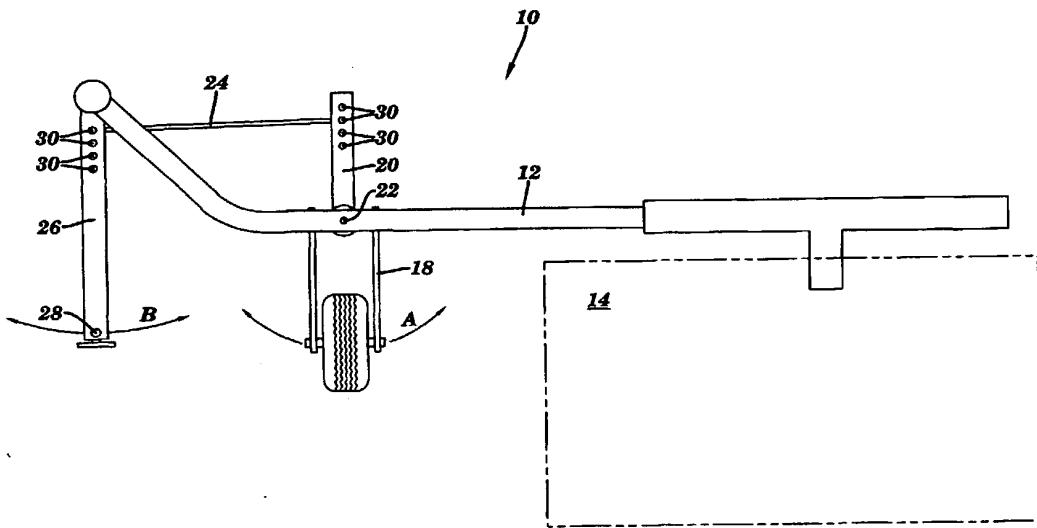
WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : B43L 13/06		A1	(11) International Publication Number: WO 00/63029 (43) International Publication Date: 26 October 2000 (26.10.00)
(21) International Application Number:	PCT/US00/10566	(81) Designated States:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
(22) International Filing Date:	19 April 2000 (19.04.00)	(71) Applicant (for all designated States except US):	GRACO INC. [US/US]; 4050 Olson Memorial Highway, Golden Valley, MN 55422 (US).
(30) Priority Data:	60/130,023 19 April 1999 (19.04.99) US	(72) Inventor; and	
(75) Inventor/Applicant (for US only):	SCHROEDER, James [US/US]; 9000 160th Lane, Ramsey, MN 55303 (US).	Published With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.	
(74) Agent:	FARROW, Douglas; Graco Inc., 4050 Olson Memorial Highway, Golden Valley, MN 55422 (US).		

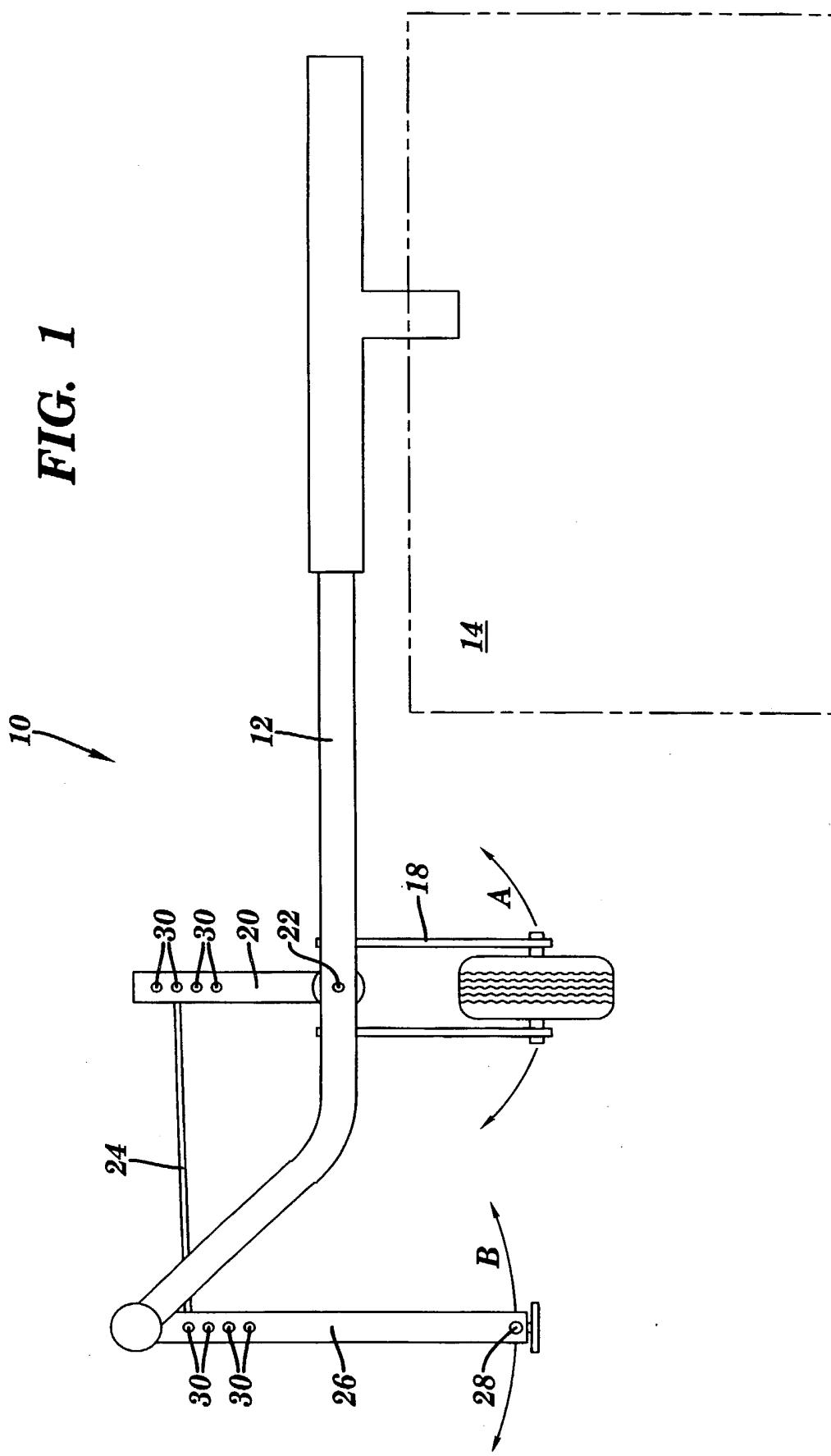
(54) Title: SELF-ALIGNING MECHANICAL POINTER



(57) Abstract

A self-aligning mechanical pointer (10), includes a frame (12) attached to the front of a vehicle (14). A guide wheel (16) rides on a road surface and is rotatably carried by a wheel holder (18). The wheel holder (18) is connected to a swing arm (20), which pivots on frame (12) at point (22). An adjustable linkage member (24) connects swing arm (20) to a second swing arm (26). A guide rod (28) provides a sight means for an operator to align the pointer (10) with an intended target.

FIG. 1



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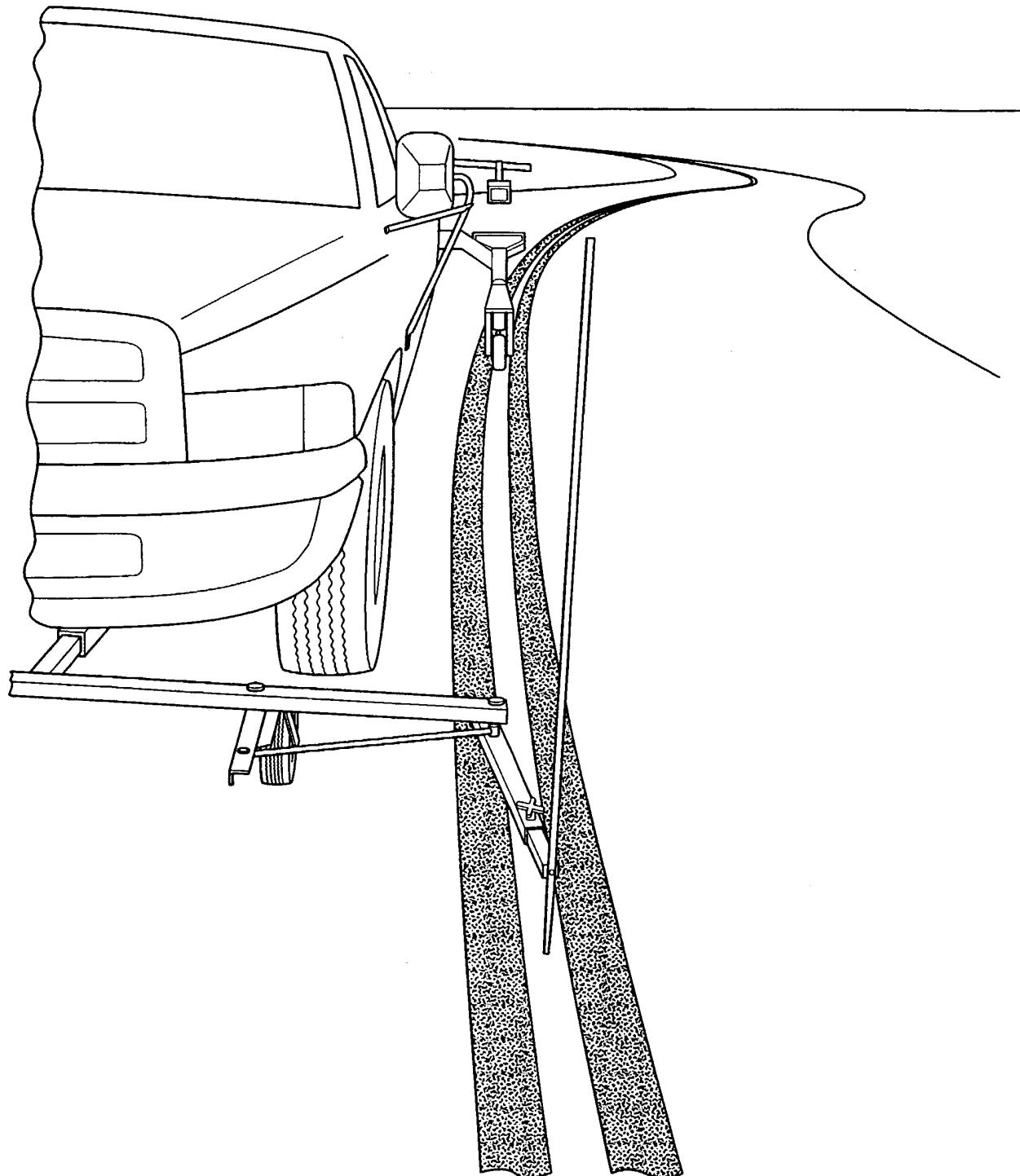


FIG. 2

SUBSTITUTE SHEET (RULE 26)

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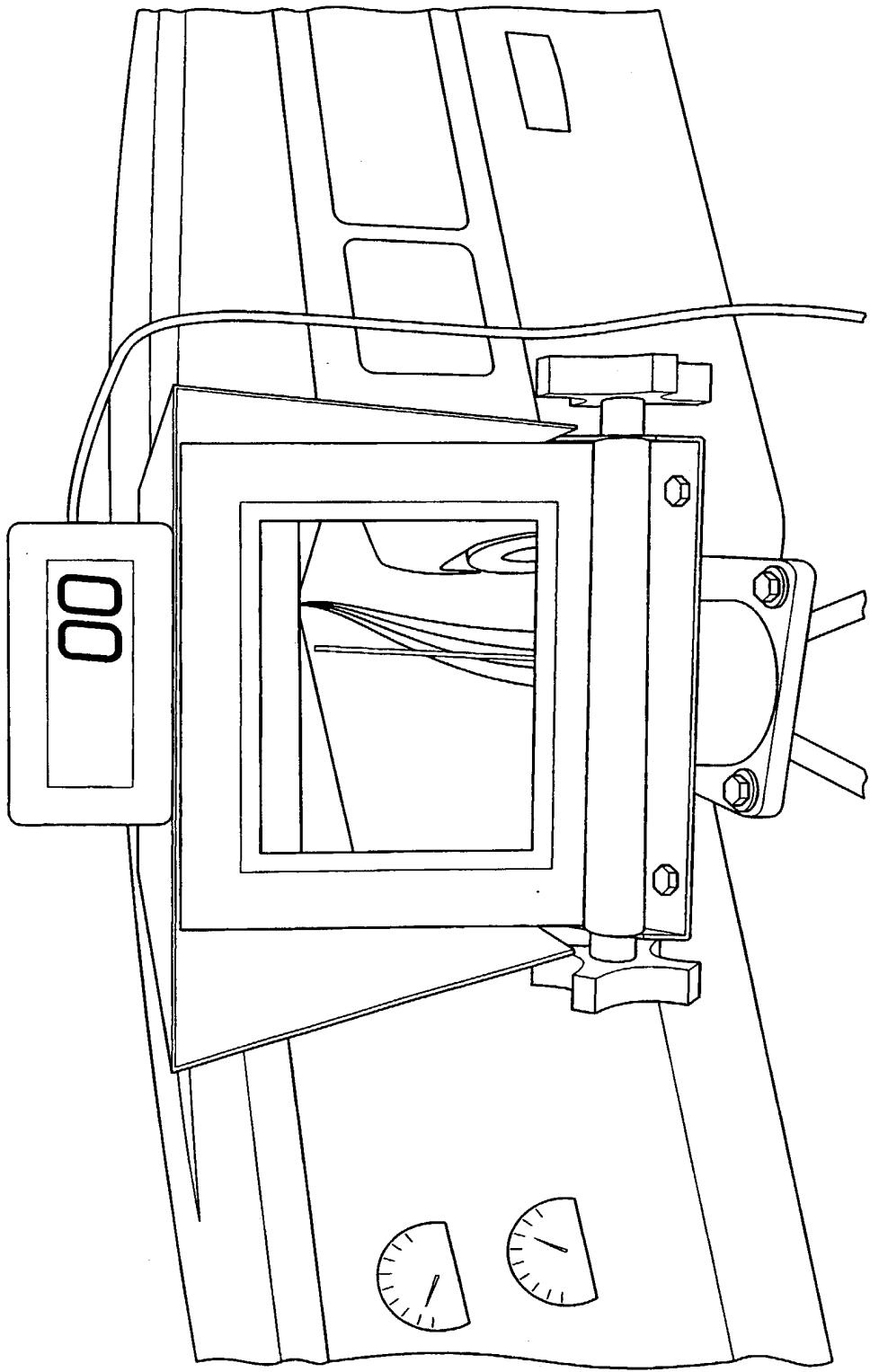


FIG. 3

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB Control Number.

**DECLARATION FOR UTILITY OR
DESIGN
PATENT APPLICATION
(37 CFR 1.63)**

Declaration Submitted with Initial Filing Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required) OR

Attorney Docket Number	1168PCT
First Named Inventor	Schroeder
COMPLETE IF KNOWN	
Application Number	/
Filing Date	
Group Art Unit	
Examiner Name	

As a below named inventor, I hereby declare that:

My residence, mailing address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

SELF-ALIGNING MECHANICAL POINTER

(Title of the Invention)

the specification of which

is attached hereto

OR

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or 365(a) of an PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?	
				YES	NO
			<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Additional Foreign Application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto:

[Page 1 of 2]

Burden Hour Statement: This form is estimated to take 21 minutes to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

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DECLARATION – Utility or Design Patent Application

Direct all correspondence to: Customer Number or Bar Code Label or Correspondence address below

Name Douglas B. Farrow, Corporate Intellectual Property Counsel, Graco Inc.

Address 88 11th Avenue NE

City Minneapolis State MN ZIP 55413

Country U.S.A. Telephone 612-623-6769 Fax 612-623-6944

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

NAME OF SOLE OR FIRST INVENTOR: A petition has been filed for this unsigned inventor

Given Name J-C Family Name or Surname Schroeder
(first and middle [if any]) James C.

Inventor's Signature James C. Schroeder Date 10/18/01

Residence: City Ramsey State Minnesota MN Country U.S.A. Citizenship U.S.A.

Mailing Address 9000 160th Lane

City Ramsey State MN ZIP 55303 Country U.S.A.

NAME OF SECOND INVENTOR: A petition has been filed for this unsigned inventor

Given Name Family Name or Surname
(first and middle [if any])

Inventor's Signature Date

Residence: City State Country Citizenship

Mailing Address

City State ZIP Country

Additional inventors are being named on the _____ supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto.